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| 09/936,387 | 12/18/2001 | John Montgomery Hamilton | 9013-38 | 2937 |

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| EXAMINER |
|---|
| VERBITSKY, GAIL KAPLAN |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2859 | |

DATE MAILED: 08/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/936,387 | HAMILTON ET AL. | |
| | Examiner | Art Unit | |
| | Gail Verbitsky | 2859 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *08 May 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7, 9, 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell (U.S. 2102678) and Manske (U.S. 5213378).

Campbell discloses in Fig. 1 a maximum/ minimum thermometer comprising an expansion liquid 24 which expands/ contracts along a tube in response to a temperature change, two indicating means (indices) 26, 28 made of magnetizable material, the indices are capable of moving within a tube containing the liquid and indicate the temperature.

Campbell does not disclose a transfer liquid. Campbell does not teach the particular aqueous solution for the transfer liquid and thus, a mercury free transfer liquid, and the particular liquid for the expansion liquid, as stated in claims 1, 9, with the remaining limitations of claims 1-7, 9 and 18-19.

Manske discloses in Fig. 1 an irreversible dual (maximum/ minimum) thermometer indicator comprising a hollow tube 6, a colorless organic compound/ liquid (expansion liquid) 10 which undergoes volume reduction (constriction). When it constricts, it draws a transfer liquid (separating liquid/ substance/ not mercury) 14 that is immiscible with the expansion liquid 10 (col. 4, line 29) to an opening of a tube where the liquids are located. The transfer liquid is not miscible with the expansion liquid. The transfer liquid is an aqueous salt solution (inorganic) and is capable of being dyed (by a suitable dye). The working temperatures are below a freezing point of water, and 127.4$^0$F (53$^0$C).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a capable of being dyed aqueous transfer liquid, as taught by Manske, to the device disclosed by Campbell, so as to reinforce a visible indication of an extreme temperature, in order to allow the user to judge that there was a period when the temperature was above or below the predetermined temperature, and thus to make the user to judge the quality of the object.

With respect to the particular temperature range, i.e., -30$^0$C and + +50$^0$C, when the transfer liquid remains liquid (working range), as stated in claim 5: the particular temperature range, absent any criticality, is only considered to be the "optimum" or "preferred" temperature range used by Campbell that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the intended use of the device, etc. *See In re Boesch*, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device, disclosed by Campbell, work in the temperature range, such as $-30^0$C and + $+50^0$C, so as to allow the user to monitor the temperature of, for example, a food product being kept in a refrigerator, in order to maintain its safety.

With respect to the particular density of the transfer liquid relative to the expansion liquid, and of the indices relative to the transfer liquid, as stated in claims 2-4 and 19 respectively: because it is very well known in the art that liquids/ objects with lower density are floatable on the surfaces of the liquids with higher densities. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to chose the transfer liquid with a lower density than the expansion liquid and the indices of a material with a density lower than the density of the transfer liquid, in the device disclosed by Campbell and Manske, so as not to allow them to unexpectedly mix, in order to provide a clear indication range.

With respect to the particular liquid (material) used for the expansion liquid, as stated in claim 18: the particular liquid (material), i.e., hydrocarbon, used for the expansion liquid, absent any criticality, is only considered to be the "optimum" or "preferred" material used for the expansion liquid used by Campbell that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the expansion liquid used by Campbell, since these materials are commonly used for thermometric liquids, and since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the

intended use of the invention. *See In re Leshin*, 125 USPQ 416. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the expansion liquid of a hydrocarbon because hydrocarbon is known to expand/ contract at certain temperatures and thus, known to be used as a thermometric liquid.

With respect to the particular liquid (material) used for the transfer liquid, as stated in claims 12-17: the particular liquid (material) used for the transfer liquid, absent any criticality, is only considered to be the "optimum" or "preferred" material used for the transfer liquid of the device, disclosed by Campbell and Manske, that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the transfer liquid, disclosed by Campbell and Manske, since these materials are commonly used for thermometric liquids, and since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. *See In re Leshin*, 125 USPQ 416.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske, as applied to claims 1-7, 9, 12-19 above, and further in view of Bealing et al. (U.S. 5990199) [hereinafter Bealing].

Campbell and Manske disclose the device as stated above in paragraph 3.

They do not teach the particular dye, i.e., Aniline Blue, for the transfer liquid, as stated in claim 8.

With respect to the particular dye, i.e., Aniline Blue, as stated in claim 8: It is very well known in the art to use an Aniline Blue dye to achieve a stable coloring of liquids. See, for example, Bealing who teaches a device wherein an aniline blue is being used as a dye to achieve a stable color. Bealing teaches a device wherein an aniline blue is being used as a dye to achieve a stable color.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to color the transfer liquid, of the device disclosed by Campbell and Manske, with an Aniline Blue, as taught by Bealing, so as to allow the user to obtain a stable clear visible indication of the temperature to be measure when the indices are not visible enough for the user with a low vision.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 9 and 12-19 above, and further in view of GB 0001967/GB041882 [hereinafter GB].

Campbell and Manske disclose the device as stated above in paragraph 3.

They do not disclose the limitations of claim 20.

GB discloses indices ***c, d*** enclosed in a glass tube.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enclose the indices, disclosed by Campbell and Manske, in a glass tube, as

taught by GB, so as to protect them from corrosion when in a direct contact with the transfer liquid, and thus, to achieve a desired accuracy of the device.

6. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 9, 12-19 above, and further in view of Hickman (U.S. 1942857).

Campbell and Manske disclose the device as stated above in paragraph 3.

They do not disclose the particular liquid as the transfer liquid, as stated in claims 10-17.

Hickman disclose a device in the field of applicant endeavor whose transfer liquid comprises a halogenated hydrocarbon, diethylene glycol. Hickman states that these materials are good lubricants and hardly soluble in an expansion liquid (for example, mercury).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the transfer liquid, of the device, disclosed by Campbell and Manske, comprise a halogenated hydrocarbon, diethylene glycol, as taught by Hickman, because these particular materials are good lubricants which will allow the transfer liquid to move along the tube, and not soluble in the expansion liquid, such as mercury, as already suggested by Hickman.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 9 and 12-19 above, and further in view of Bernard (U.S. 4908503).

Campbell and Manske disclose the device as stated above in paragraph 3.

They do not disclose the particular material to make indices, as stated in claim 21.

Bernard describes a marking plate (index) made of a plastic with a magnetic powder injected (mixed).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the indices, disclosed by Campbell and Manske, with indices made of a material comprising a plastic mixed with a magnetic powder, as taught by Bernard, because both of them are alternate types of magnetic material which will perform the same functions of providing an indication, if one is replaced with the other.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Bernard.

Campbell discloses in Fig. 1 a maximum/ minimum thermometer comprising an expansion liquid 24 which expands/ contracts along a tube in response to a temperature change, two indicating means (indexes)26, 28 made of magnetizable material, the indexes are capable of moving within a tube containing the liquid and indicate the temperature.

Campbell does not disclose the particular material to make indices, as stated in claim 22.

Bernard describes a marking plate (index) made of a plastic with a magnetic powder injected (mixed).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the indices, disclosed by Campbell, with indices made of a material comprising a plastic mixed with a magnetic powder, as taught by Bernard, because both of them are alternate types of magnetic material which will perform the same functions of providing an indication, if one is replaced with the other.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Response to Arguments***

10. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

With respect to Manske: Applicant states that the transfer liquid in Manske is not immiscible with the expansion liquid. This argument is not persuasive because, in the rejection

on the merits, the Examiner used the liquid 14 as the transfer liquid, since it performs the same function as the transfer liquid claimed by applicant. Please refer to col. 1, line 68 and col. 4, lines 24-29 stating that the transfer liquid is not miscible with transfer liquids.

Applicant states that Manske's thermometer is irreversible. This argument is not persuasive because the limitation on which applicant relies (thermometer being irreversible) is not stated in the claims. It is the claims define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7USPQ2d 1064. Also, in the rejection on the merits, the Examiner uses Manske as a secondary reference only for its teaching of a transfer liquid in addition to an expansion liquid.
Also, the preamble of the claims does not provide enough patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon introductory clause. Kropa v. Robie, 88 USPQ 478 (CCPA 1951).

With respect to claim 22: applicant states that claim 22 is dependent on claim 1. Please note, that according to the disclosure and amendments (Paper # 7 and Paper # 10) submitted by applicant, stays independent.

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices.

12. Any inquiry concerning this communication should be directed to Examiner Verbitsky who can be reached at (703) 306-5473 Monday through Friday 7:30 to 4:00 ET.

Any inquiry of general nature should be directed to the Group receptionist whose telephone number is (703) 308-0956.

GKV

July 15, 2003

*Gail Verbitsky*

*Patent Examiner, TC 2800*